

Notice of Allowability

Application No.

10/604,910

Examiner

Terry L Englund

Applicant(s)

GEISSLER, STEPHEN F.

Art Unit

2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amdt/Dwgs (Nov 24, 2004).
2. ☒ The allowed claim(s) is/are 5-11, and 21-22 (now renumbered as 3-9, and 1-2, respectively for printing purposes).
3. ☒ The drawings filed on 24 November 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

TIMOTHY P. CALLAHAN
SUPERVISORY PATENT EXAMINER

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to the applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

Claim 7, line 1: Changed "the supply" to --its supply--;

Claim 8, line 7: deleted "the gate of the fourth NFET and"; and

Substitute Abstract: replaced in its entirety with

--A current reference circuit, for generating a reference current from a low voltage supply source, includes a first n-channel field effect transistor (NFET) having a gate and a drain that are coupled together, and a grounded body; and a second NFET having a floating body, and a gate coupled to the gate of the first NFET.--.

Claims 7 and 8 were both amended to address/correct inadvertent oversights (e.g. the problems were not described in the previous Office Action, although the Examiner's copy of the claims clearly had them identified). In claim 7, "the supply voltage" lacked an antecedent basis; and in claim 8, the source of the fourth NFET is not coupled to its gate. The substitute Abstract was replaced for at least two reasons: 1) The substitute Abstract did not address/overcome the objection described in the previous Office Action because it did not describe how the two NFETs actually relate to one another; and 2) the substitute Abstract's descriptions still read on prior art references (e.g. see first NFET 106, and second NFET 108 shown in the applicant's own Figs. 1-2). Therefore, the substitute Abstract was replaced to describe how the two NFETs actually

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relate to one another, and to distinguish the invention's two NFETs from other circuits having floating gates.

RESPONSE TO AMENDMENT/DRAWINGS

The amendment and drawings submitted on Nov 24, 2004 have been reviewed and considered with the following results:

The two pages of Replacement Sheets overcame the objections to Figs. 1-4 described in the previous Office Action. The extra reference characters, that are not described in the disclosure, have been removed from those figures. Therefore, those drawing objections have now been withdrawn.

The substitute Abstract did not satisfactorily address/correct its objection described in the previous Office Action. The replacement Abstract, described in the Examiner's Amendment described above, addresses/corrects this concern, and the objection to the Abstract has now been withdrawn.

The cancellation of claims 1-4, and 12-20 rendered their respective objection(s) and/or rejection(s) moot, including all the prior art rejections described in the previous Office Action.

When reconsidering all of the active claims, it was noted two claims (i.e. 7 and 8) did not have their concerns, identified by the examiner, described in the previous Office Action. However, these were considered minor oversights one of ordinary skill in the art would understand. Therefore, they were addressed/corrected by the Examiner's Amendment described above.

There is no known objection or rejection remaining within the present application.

REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance:

None of the prior art references reviewed and considered shows or discloses a current reference circuit with two NFETs as recited within independent claim 21. More specifically, none of the references clearly shows/discloses the gate of a second NFET being coupled to the gate/drain of a first NFET, wherein the second NFET's body is floating, and the first NFET's body is grounded. Since there is no motivation to modify or combine any prior art reference(s) to ensure those body related limitations of the two NFETs are met, the claims are deemed patentably distinct over the prior art of record.

Claims 5-11, and 21-22 are allowed, and have been renumbered as claims 3-9, and 1-2, respectively for printing purposes. The renumbering takes into account the cancellation of claims 1-4, and 12-20, as well as newly added independent claim 21, and its dependent claim 22. Claims 5-11 now all depend on claim 21.

PRIOR ART

An update search concentrated on field effect transistors having a floating body (e.g. back gate, bulk, pwell, etc.). Various references disclose that the use of a floating body can lower the transistor's threshold voltage during operation (e.g. due to reverse body effect), and a grounded body can prevent any charge build up when operation is deactivated. However, none of the numerous references reviewed and considered shows or discloses two FETs having their gates coupled together (e.g. in a known current mirror type configuration), wherein one transistor has a floating body, and the other transistor's body is not floating (e.g. coupled to ground, a back bias voltage, the transistor's source, etc.).

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Any comments considered necessary by the applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication, or previous communications, from the examiner should be directed to Terry L. Englund whose telephone number is (571) 272-1743. The examiner can normally be reached Monday-Friday from 7 AM to 3 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Callahan, can be reached on (571) 272-1740.

The new central official fax number is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-1562.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Terry L. Englund

20 December 2004